EPTC: a success story in targeting a customer base

Western's Electric Power Training Center, located in Denver West Office Park, offers Western employees and customers a variety of courses related to the electricity industry to help us better understand our mission and perform our jobs more effectively.

In its pursuit to become a world-class training facility, the EPTC offers courses for non-technical staff, powerplant personnel, line crews, dispatchers, engineers and technical professionals.

Courses include a basic class titled "Overview of Electric Power Systems." It was specifically created for administrative personnel and other non-technical professionals. This course includes hands-on operation of a miniature power system that helps students apply classroom theory to real-world problems and situations using simulators to test their problem-solving skills.

*Electric Power Training Center Instructor **Bob Wilson** explains the Instructor Control Console to a student.*

EPTC Lead Instructor **Bob Wilson** explained, "Simulators provide students the opportunity to practice different strategies in an environment that is both safe and designed for optimum learning. The EPTC specializes in offering training courses using a fully integrated hydro powerplant-based power system simulator."

The simulator includes full-scale simulation of hydroplant operations and 200 miles of transmission lines with a switchyard, two fully operational substations and a dispatch center.

EPTC Manager **Dennis Schurman** explained the value of simulators: "Simulators reduce the risk to equipment or lines by allowing students to make mistakes and learn from them without causing harm to people or equipment. Hands-on training shows how theory relates to power system operation and students quickly gain a perspective on how interdependent the generation and transmission system is. Simulators also provide immediate feedback on what works and what doesn't."

In addition to the miniature power system, the EPTC also uses a dispatch training simulator, placing students in the role of a power system dispatcher. EPTC Instructor **Charles Gray** noted, "We have consoles that replicate today's energy control center Supervisory Control and Data Acquisition, or SCADA, systems. Students use them to improve existing dispatching skills or enhance their knowledge of power system operations by gaining a first-hand appreciation of a dispatcher's job."

*EPTC Instructor **Charlie Gray** demonstrates the Dispatch Training Simulator to students in a recent overview class designed for non-technical professionals.*

The dispatch training simulator is vital to the EPTC's menu of six dispatching courses. One of the most popular dispatch-related courses is a North American Electric Reliability Council dispatcher certification preparation course. Jeff Halgerson and Gary

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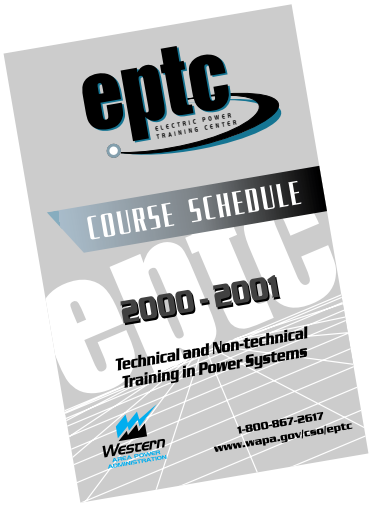

Hanson from Black Hills Power attended the course in April.

In an e-mail to Gray, Halgerson said, "Gary Hanson and I took the NERC test and passed on June 5. Thanks for the excellent class. Black Hills Power will be sending several more dispatchers to your class."

The EPTC offers three power system operation courses, including an overview refresher course of powerplant and system operations targeted to veteran powerplant operators. A course for maintenance personnel, engineers and other technical staff teaches how the power system works and how their jobs affect the system. A course on grounding and grounding systems is designed for crafts workers, foremen, supervisors, engineers and maintenance directors.

In addition to an introductory relaying course, the EPTC has added an advanced relaying course that emphasizes the various solid-state relays used today, their operating characteristics and applications, protection schemes, settings and troubleshooting.

The EPTC is committed to providing high-quality, power operations-related technical training that meets customer needs and expectations. Schurman said, "We provide students the opportunity to enhance their knowledge, skills and ability in an environment that reflects current technology and operating methods."

"EPTC key customers are Reclamation, U.S. Army Corps of Engineers and Western, with a significant 37 percent of revenues coming from other customers," Schurman said.

Power Plant Operator classes continue to be very popular, making up about 52 percent of total classes. EPTC staff are expanding the curriculum of the operator course to cover steam and gas operations. The United States has 10 times more steam plants than hydroplants. Tapping into this market would significantly expand the EPTC customer base. "The market for these classes is increasing, and the EPTC plans to capitalize on this interest," Schurman said.

According to Schurman, other courses continue to be added to the EPTC curriculum to keep up with market needs. "Local rural electric associations have shown interest in a course we are currently pursuing. Distribution Dispatching would be useful to numerous REAs throughout the country, so we are working on developing that course," he added. "We are soliciting input and feedback from interested customers." A Distribution Dispatching class is scheduled for spring 2001. Another course requested by customers is Relaying for Operations, to be presented in December.

"The EPTC is a fine facility that provides quality training. Because of the quality product it produces, its name and reputation are gathering momentum within the training community," Schurman said.

Western encourages its employees to attend EPTC courses to gain a better understanding of our vast generation and transmission systems. For more information on Western's EPTC, visit **www.wapa.gov/cso/eptc**.

Building a course: EPTC designs a sequel

lectric Power Training Center Instructor **Bob Wilson** is the lead for a new week-long EPTC course titled "Fundamentals of Power Systems," making its debut in early December.

Developing a new course starts with an agenda or roadmap, and applies techniques similar to an architect embarking on a new design. "Fundamentals is a course designed to serve many audiences," Wilson explained.

EPTC Instructor **Gary Zevenbergen** said, "One of the hardest things we do at EPTC is to build an agenda for a course we teach. Once the roadmap is completed, the rest of the process takes a lot of time but is straightforward."

"We got many requests for a course to follow our popular introductory course for non-technical folks—a course that goes to the next level of detail and complexity. Fundamentals will be that course," Wilson said. "Like Gary said, building an agenda takes a lot of thought and time. We use our best judgment to assemble a range of topics that best serve our audience," he added.

"Fundamentals meets the need for a sequel course and is for anyone with limited experience in electric
power systems," Wilson said. A draft course outline includes intermediate electrical theory, a review of basic power systems operations, a possible substa-tion or dispatch center tour midweek, more on the ever-changing subject of deregulation and many hours of hands-on laboratory sessions in EPTC's Miniature Power System and Dispatch Training Simulators. "Because we're still in the developmental stage of this course, I welcome suggestions on content," Wilson said. E-mail suggestions to Wilson at **bwilson@wapa.gov**.

"We hope to see students from Western, other government agencies, investor-owned utilities and operations, human resources and other non-technical fields. A diverse group of students makes a great class where students learn from our highly qualified and experienced staff, and from each other," Wilson said.

For more information on the EPTC's "Fundamentals of Power Systems" class and a full menu of courses, visit **www.wapa.gov/cso/eptc**.